REMARKS

Applicants have carefully reviewed the Final Office action mailed February 24, 2011. To better distinguish their invention from the art of record, applicants have amended claims 1, 8, and 14 and have cancelled claims 11 and 12. In particular, applicants have amended claim 1 to include the feature of increasing the strength of the comfort noise increasing the added comfort noise in accordance with a quantization parameter representing quantization of the incoming video stream. Applicants have made similar amendments to claims 8 and 14. Ample antecedent basis for such amendments exists at page 5, lines 25-30 and page 6, lines 1 and 2 of applicants' specification.

35 U.S.C. § 102(a) Rejection of Claims 1-4, 8, and 11

Claims 1, 3-4, 8, and 11 stand Finally rejected under 35 U.S.C. § 102(a) as anticipated by the publication, C. Gomila and A. Kobilansky, *SEI Message for Film Grain Encoding*, JVT of ISO/IEC MPEG and ITU-T VCEG, Geneva, Switzerland, May 2003, pages 1-14 (XP-002308742). In this regard, the examiner contends that the Gomila et al. publication teaches applicants' features of: (a) decoding the video stream; and (b) adding noise to at least one pixel in a picture in the video stream following decoding in an amount correlated to luminance information of at least a portion of a current picture, as recited in claim 1. Further, the examiner has relied on other portions of the Gomila publication to anticipate claims 3-4, 8, and 11.

Applicants have amended claim 1 to recite the step of:

increasing the added comfort noise in accordance with a quantization parameter representing quantization of the incoming video stream.

Applicants have amended claim 8 to recite:

a video decoder for decoding an incoming coded video stream to yield decoded pictures and for generating a quantization parameter representing quantization of the coded video stream; and

a noise generator noise for generating random noise for addition to at least one pixel in a decoded picture in an amount correlated to correlated to

luminance information of at least a portion of a current picture using a factor
dependent on the temporal correlation of the current picture image with one
of a previously displayed or decoded picture <u>and increased in strength in
accordance with an increase of the quantization parameter</u>;

Applicant has cancelled claim 11, rendering the rejection of that claim moot.

As now amended applicants claims 1 and 8, and dependent claims 3-4 patentably

distinguish over the Gomila and Kobilansky publication. As discussed in applicants'

previous response, the Gomila and Kobilansky publication describes a technique for

simulating film grain in accordance with a film grain simulation model specified in a

supplemental enhancement (SEI) message accompanying the encoded image. The

examiner has relied on this reference because of the disclosure therein of using second

order auto regression to model spatial correlation and first order regression to model

cross-color and temporal correlations.

While applicants disagree that the Gomila and Kobilansky publication teaches

adding temporally correlated noise, this reference contains no teaching or suggestion of

<u>increasing the strength of the comfort noise in accordance with a quantization parameter</u>

<u>representing quantization of the coded video stream.</u> Indeed, the Gomila and Kobilansky

publication says nothing at all regarding quantization of the incoming coded video

stream. Therefore, the Gomila and Kobilansky publication does not teach all of the

features of amended claims 1, 3-4, and 8 so the Gomila and Kobilansky publication

would not anticipate these claims.

35 U.S.C. § 103(a) Rejection of Claims 5, 6, 13, and 14

Claims 5, 6, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as obvious over

the publication by Cristina Gomila, entitled SEI Message for *Film Grain Encoding:*

syntax and results, JVT of ISO/IEC MPEG and ITU-T VCEG, September 2003, pages 1-

11 (XP-002308743), in view of the Gomila and Kobilansky publication discussed

previously. Applicants respectfully traverse the rejection in view of the amendments to

claims 1, 8, and 14.

As discussed previously, the Gomila and Kobilansky publication describes a technique for simulating film grain in accordance with a film grain simulation model specified in a supplemental enhancement (SEI) message accompanying the encoded image. In connection with claims 5, 6, and 13, the examiner acknowledges that the Gomila and Kobilansky publication says nothing about the specific features recites in each of these claims. To remedy the deficiencies of the Gomila and Kobilansky, the examiner relies on the Gomila publication *SEI Message for Film Grain Encoding: syntax and results* for the features in claims 5, 6, and 13.

With regard to claim 14, the examiner acknowledges that the Gomila and Kobilansky publication does not disclose generating noise in an amount correlated to the additive noise in at least one pixel of a prior picture. The examiner relies on the Gomila publication to teach such noise correlation.

As discussed above, applicants have amended claims 1 and 8 to include the feature of increasing the added comfort noise in accordance with a quantization parameter representing quantization of the incoming video stream. Applicants also have amended claim 14 in a similar manner.

Applicants have discussed the Gomila and Kobilansky publication above in connection with the 35 U.S.C. § 102(a) rejection of claims 1-4, 8 and 11. Applicants will not repeat that discussion for the sake of brevity, but reiterate that the Gomila and Kobilansky publication says nothing about <u>increasing the strength of the comfort noise in accordance with a quantization parameter representing quantization of the coded video stream</u> as recited in claims 1, 8, and 14 and the claims that depend therefrom.

The Gomila publication describes specific syntax in connection with the SEI message for conveying film grain information separate from the coded image. However, like the Gomila and Kobilansky publication, the Gomila publication says nothing about <u>increasing the strength of the comfort noise in accordance with a quantization parameter representing quantization of the coded video stream.</u>

Given that neither the Gomila and Kobilansky publication nor the Gomila publication teach applicants' feature of <u>increasing the strength of the comfort noise in accordance with a quantization parameter representing quantization of the coded video</u>

stream, the combination of these references would not teach all of the features of amended claims 1, 8 and 14. Claims 5 and 6 depend from claim 1, whereas claim 13 depends from claim 8. Therefore, claims 5, 6, and 13 all incorporate by references features not disclosed by the combination of the Gomila and Kobilansky and the Gomila publications. Therefore, claims 5, 6, 13, and amended claim 14 patentably distinguish over the art of record.

35 U.S.C. § 103(a) Rejection of Claims 7, 9, and 10
35 U.S.C. § 103(a) Rejection of Claim 15

Claims 7, 9, 10, and 15 stand rejected under 35 U.S.C. § 103(a) as obvious over the Gomila and Kobilansky publication discussed above with respect to the 35 U.S.C. § 102(a) rejection of claims 1-4, 8 and 11, in view of US Patent 7,773,741 in the name of Wilf LeBlanc et al..

In rejecting applicants' claims, the examiner contends that the Gomila and Kobilansky publication teaches all of the features of claims 7, 9, 10, and 15 except for the use of an Infinite Impulse Response (IIR) filter. To cure that deficiency, the examiner has cited the Leblanc et al. patent. Applicants respectfully traverse the rejection.

The applicants have discussed the Gomila and Kobilansky publication at length above in connection with the 35 U.S.C. § 102(a) rejection of claims 1-4, and 8 and 11. Applicants will not repeat that discussion for the sake of brevity, but reiterate that the Gomila and Kobilansky reference says nothing about <u>increasing the strength of the comfort noise in accordance with a quantization parameter representing quantization of the coded video stream.</u>

The Leblanc et al. patent describes a system that discriminates between voice signals and data signals modulated by a voice band carrier. The signal processing system of LeBlanc et al. includes a voice exchange, a data exchange, and a call discriminator, with the voice exchange capable of exchanging voice signals between a switched circuit network and a packet based network.

While the LeBlanc et al. patent does discuss the quantization of data signals, as well as the addition of comfort noise, the patent says nothing about <u>increasing the</u>

strength of the comfort noise in accordance with a quantization parameter representing quantization of the coded video stream as recited in applicants' claims 1, 8, and 14. In this regard, the LeBlanc et al. patent adds nothing to the Gomila and Kobilansky publication.

Given that neither the Gomila and Kobilansky publication nor the LeBlanc et al. patent teaches all of the features of applicants' amended claims 1, 8, and 14, then claims 7, 9-10 and 15, which depend therefrom, respectively, patentably distinguish over the art of record.

35 U.S.C. § 103(a) Rejection of Claim 12

Applicant has cancelled claim 12, thereby rendering the rejection of that claim moot. However, in view of the amendment of claims 1, 8 and 14 applicants will discuss the publication by Gisle Bjontegaard entitled *Addition of Comfort Noise as Post Processing*, ITU - Telecommunications Standardization Sector, Document Q15-B-15, Second Meeting: Sun River, Oregon, 8-11 September 1997. The examiner has cited this reference as teaching the inclusion of a quantization parameter in connection with comfort noise generation.

First, applicants disagree with the examiner's reliance on the Bjontegaard publication to teach the use of a quantization parameter, representing the quantization of the coded (incoming) video stream. The Bjontegaard publication uses the term "QUANT" only twice with no definition as to the meaning of the term. Without any further discussion of that term, a skilled artisan would have to guess as to its meaning. Applicants maintain that the examiner cannot rely on such a vague disclosure to establish a *prima facie* case of unpatentability.

Assuming arguendo that the term "QUANT" as set forth in the Bjontegaard publication does refer to a quantization parameter representative of the quantization of the coded video, the Bjontegaard publication says nothing regarding the desirability of increasing the strength of the comfort noise in accordance with a quantization parameter representing quantization of the coded video stream. Thus, the combination of

Bjontegaard, and any or all of Gomila, Gomila and Kobilansky and LeBlanc et al. would not render obvious applicants' amended claims 1, 8 and 14, and the claims dependent therefrom.

Conclusion

In view of the foregoing, applicants solicit entry of this amendment and allowance of the claims. If the Examiner cannot take such action, the Examiner should contact the applicant's attorney at (609) 734-6820 to arrange a mutually convenient date and time for a telephonic interview.

No fees are believed due with regard to this Amendment. Please charge any fee or credit any overpayment to Deposit Account No. 07-0832.

Respectfully submitted,
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